

ENGLISH TRANSLATION OF JAPANESE PATENT LAID-OPEN 8-19 1561

[0006] 1.1-5: "The first object of the present invention is to provide a motor structure enabling vibration and noise in coils and stator yoke caused by switching of coil current at high speed while rotating the brushless DC-motor at high speed to be suppress."

[0017] 1.1-3: "The coil portion 12 Includes a bobbin 14 made of resin in which flange, are formed on both end portions thereof, and a winding 15 would thereon."

[0019] 1.1-12: "The coil portion 12 is performed with the vacuum process to impregnate therein with the thermosetting resin in the vacuum, is performed with the heat process to cure the thermosetting resin, and then is assembled in the stator 10. As described the above, the resin is cured after the resin is impregnated between the windings 15 and between the windings 15 and the bobbin 14, the winding 15 and the bobbin 14 being perfectly fixed each other. Consequently, the electromagnetic vibration in the winding generated by switching the coil current at high speed is suppressed, enabling the noise to be reduced. Moreover, in this embodiment, the epoxy resin is used for the thermosetting resin, but the thermosetting resin is not limited to the epoxy resin, any member having adhesive property, for example, unsaturated polyester resin, etc., may be used for thermosetting resin."

[0020] 1.3-8; "The self welding winding 30 used for the winding 15 of the coil portion 12 is wound and then is cured by the external heating method or the self-resistance welding heating

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method, etc., Figure 3 shows the structure of the self welding winding 30 according to the present invention, the insulating film 32 is baked on the conductor 31, and the fusion coating 33 made of the reactive high molecular material is baked thereon.”

[0021] 1.12.19: “The thermosetting resin 22 is impregnated between the coil portion 12 and the stator yokes X and Y and then is heated after the coil portion 12 is assembled to the stator yokes X and Y. As constructed in this manner, the remarkable effects that vibration and noise is reduced can be obtained. Moreover, in this embodiment, the epoxy resin is used for the thermosetting resin, but the thermosetting resin is not limited to the epoxy resin, any member having adhesive property, for example, unsaturated polyester resin, etc., may be used for thermosetting resin.”